

Health Aspects of the Urban Environment

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IN SHREVEPORT, LA., there was a medical shingle reading "General Specialist." I think perhaps it should be my shingle, too, because working in the field of public health, I am constantly being tossed between being a specialist in one area and looking at the general situation and the total public health policy in another.

As a general specialist, I diagnose the current illness in our cities as urban stress disease, a sociological condition resulting from the cultural changes within this nation in the last few years. It is a disease of large populations crowded together, resulting in a stress condition with psychological and physical symptoms.

With our present communication capabilities, no one is immune to the pressures created by this urban syndrome. Through radio, television, and modern transportation even the most isolated people are involved in the problems, concerns, and conditions of the urban revolution. Our clothes, cars, and evening entertainment reflect the urban civilization.

I am concerned with prevention and control of the factors producing or contributing to urban problems. I do not believe that one of today's tangible evidences of stress—the riot—can be cured. However, we can prevent the situation from getting worse.

The major mission of public health should be prevention and control of factors in advance of crises. This is the basic philosophy of public

health, and treatment or other after-the-fact remedies should be regarded as failure to carry out the primary mission.

This is not necessarily a universally accepted interpretation of "health" in the phrase "public health," but I am interpreting it in its broadest sense—as in the World Health Organization definition—to include a state of positive well-being. "Public," to me, implies being political in the Aristotelian sense—the science and art of public policy. I believe that the failure of most scientists and professionals in the public health field to work from this viewpoint is responsible to some degree for present social unrest. Fortunately, the trend among public health leaders is to involve and become involved with groups and individuals from many backgrounds who were formerly not used.

Accordingly, public health can offer a very effective tool to help persons of divergent interests and backgrounds determine future courses of action in our cities. This tool is epidemiology. In public health, epidemiology was concerned originally with the kinds of epidemics—yellow fever, smallpox, and the like—considered to be visitations upon the people. Though urban stress disease is different, I believe it can also be prevented and controlled if the techniques of epidemiology which help identify and pinpoint probable sources of disruption are applied.

What is involved is a step-by-step tracing of the "forces that explain" disease or health or any condition. I use the phrase "the forces that explain" because I want to avoid the word "cause." To many people cause and effect is an overly simplistic approach to most health problems.

For example, the course of many diseases, such as lung cancer, is affected, influenced, or

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aggravated by a number of variable factors. We use these hedging words because at any given time, it is impossible to say which one, if any one, is really the cause. For lung cancer, air pollution, smoking, industrial exposures, dust, and basic constitutional differences in the victim are all important factors. All influence the onset and development of disease. If this is true for physical maladies, how much more is it true when we talk about the sociology of the urban condition.

Incarnations of Public Health

In my view, public health has had four different incarnations. The first incarnation was the health officer of the 19th century. He was the noble man in the white hat, fighting communicable disease. And there was so much communicable disease around that it was a common, omnipresent enemy. No one was selling malaria mosquitoes or smallpox virus. This was the great era of public health, the sanitary awakening.

Second was the era of the magic bullet, still somewhat with us, but beginning to fade. It was at the beginning of this era that our money and efforts began to go more into research laboratories and away from action programs of direct and immediate benefit to people. The focus was on new discoveries and problems. Money became available for research to the point, some have said, that college professors forgot to teach the students.

This was the era of new wonder drugs and immunization techniques and of the feeling that all of the answers either were with us, or, through research, right around the corner. Articles in the popular magazines led the public to believe the cure for all disease was very simple—just get another shot. This acceptance of a simplistic cause-and-effect relationship took the pressure off public demand for prevention since disease was presumably so easy to cure.

The third is the current era of medical care. Medical care is a “good thing” which everybody ought to have, but it is not prevention and control. We are seeing the consequences already. It is predicted that the cost of hospitalization by the year 2000 will be \$500 a day if things continue as they are. We already face increasing shortages of physicians, nurses, and others to

take care of the sick. As the cures and treatments become more complicated—kidney dialysis, intensive care units, organ transplants—we will see more demand for the increasing involvement of a large number of professionals and allied workers in the health field. We may never catch up with the manpower demands and the financial drain of costly cures. And we may question the rationale of curing a person only to have him return to a hazardous environment.

The public is beginning to demand a fourth incarnation of public health—prevention and control through attention to man’s environment. However, talk about controlling air pollution or solid waste, auto safety, exposure to radiation, or cigarette smoking engenders considerable controversy. It involves somebody’s product or the byproduct of somebody’s activities, and by implication places controls on him and his freedom of action.

The solutions to these problems in many cases are simple. Technically we can solve the Los Angeles air pollution problem very easily—just ban all automobiles. We can ease the solid waste problem by prohibiting glass disposable bottles and easy-open cans. We can eliminate cigarette smoking as a hazard by raising taxes and stopping the subsidization of tobacco growing. The practicability of these simple solutions is another matter, however, and we must seek more realistic approaches which involve compromise and the application of complex technology. The ultimate solutions for these interwoven problems will depend on political and social action.

Environmental Hazards

The city is really a closed environment of its own. Everything that is done in a city or in a metropolitan area affects something else. When more people are added, there are more air pollution problems, the water supply must be increased, more solid wastes are generated and must be disposed, there is more traffic and noise, and more housing is needed. These factors are interrelated, but public policy generally has not considered them in context and most related planning has been single purpose. This attitude is somewhat analogous to looking at the city as a series of parcels of land, each surrounded by medieval moats and high walls, and disregards

the fact that interdependence of people, communities, and resources necessitated the destruction of these kinds of physical barriers long ago.

For example, when a new roadway is needed through a city the planner is given the charge to get cars from here to there, and this charge becomes his primary purpose. He may recognize that he is running the new road through a park and by a hospital and he is bringing in air pollution problems. But these are not of immediate concern to him because his job is to provide a road to move traffic as efficiently as possible. Even in the Bureau of Disease Prevention and Environmental Control we often find ourselves in a similar trap because of single purpose planning. Staff of the National Center for Urban and Industrial Health concerned with solid waste propounded incineration as the solution to solid waste disposal for most cities. This, of course, was not an acceptable solution per se to the staff of the National Center for Air Pollution Control.

Tunnel vision will not help us solve problems in our urban areas, but will only compound them. The fall 1967 issue of *Daedalus*, the journal of the American Academy of Arts and Sciences, has an article by Howard Gilliam on single purpose planning and its cul de sac, dead end character. To move forward, we must see ourselves as a community having one dome of polluted air, one source of water, one mountain of solid waste, one contiguous and uninterrupted sprawl of crowded population, one intercity and often interstate flow of traffic, and one barely interrupted cacophony of noise.

We must look at all of these as they fit together, and we must help those responsible for laws and policies governing these communities to recognize that there is a maximum allowable limit of pollution and of misuse of resources, particularly land, which they can permit. This calls for preventive and control measures; and means that responsibility to the community goes beyond merely the individual claims of property owners.

We have faced up to the need for controls in some fields. For instance, we recognized very early that there were only so many channels of air waves for radio use, which were designated by law for different kinds of uses. We have recognized this also for air transport.

We have not yet come to grips so effectively with many of the environmental health problems. One of the major deterrents is the individual's lack of identification with specific problems in this area, although he is the one most likely to be adversely affected. For example, most persons find it difficult to conceive of the vast atmosphere as a limited resource. It is also hard to comprehend that one person burning his household trash or autumn leaves is really making a serious contribution to the pollution of the air. Yet the cumulative effect of many small sources added to many other influences, such as daily weather conditions and topography, helps create the typical problems we face in public health.

We need to look at all environmental hazards, recognize their limits, and ask ourselves how far we as a public are willing to accept limitations before these hazards limit us. What are we willing to pay for within those limitations? What controls do we want to prevent the worsening of the situation? How do we go about our prevention efforts?

Land Use

The more I work in environmental health the more I detect that land use may be the key to many problems. For instance, the interrelated problems of nutrition, agricultural development, and irrigation practices in the Southwest were brought to my attention recently. Improper irrigation practices were leading to the salting out of the land, rendering it unfit for future cultivation and polluting the water as well.

In another area of the country one of the programs of the Bureau is to eradicate the yellow fever mosquito. This, too, is a land use problem, principally because of the insecticide spraying and elimination of factors favorable to mosquito breeding.

Land use is also a major problem in the disposal of solid waste. In a city like the District of Columbia, hemmed in by two States, there is a limited amount of land that can be used for sanitary disposal; the present practice of burning on open dumps has created additional problems that must also be solved.

Thus, land use is a very important factor in public health. Unfortunately, the public health profession has rarely addressed itself

to such problems. Most professionals quickly disclaim any knowledge about land use and dismiss consideration of it. And yet, we in public health are called in later to do something about the hazards that develop as a consequence of tunnel vision decisions about land use.

Planners have given only lip service to health objectives and environmental quality needs and standards, with the result that most of the really influential land use decisions have been dictated by real estate promoters, builders, pressures of commercial interests, and myths of the marketplace.

Admittedly, planning and public health controls have been the answer occasionally. But for the most part these answers have been spasms of piecemeal public interest reflecting timid zoning policies painfully developed by legislative bodies caught in the concepts of property laws designed for uncrowded communities. One basic problem has been the lack of recognition and understanding of the effects this kind of action may have on the public's health. It seems to me that if proper policy is to be developed, health officials willing and able to include health criteria in the planning process must be among the decision makers.

I am not entirely negative about the efforts many planners have made and am aware that much of the blame for a lack of productive health criteria is the fault of health professionals. Planners and architects have been seeking standards and criteria of human stress as well as measures of human tolerance and asking questions health professionals have been unwilling or unable to answer.

Thus, one of our urgent jobs in public health is to develop criteria and indices to measure exposure levels and to help set priorities and evaluate existing situations as various environmental factors change and influence them. Epidemiology is the tool for developing these kinds of measures. It is, in the words of Dr. Lowell Reed of Johns Hopkins University, "The science of how things get that way."

Developing Measurements

The Bureau of Disease Prevention and Environmental Control is comprised of five national centers, each responsible for certain

kinds of environmental problems. They are the National Communicable Disease Center, National Center for Chronic Disease Control, National Center for Radiological Health, National Center for Air Pollution Control, and National Center for Urban and Industrial Health. These centers are the action equivalents of the basic research conducted or supported by the National Institutes of Health.

The National Center for Urban and Industrial Health has the most comprehensive mission. It is not so categorical as the others, in that it involves program coordination and a dynamic concept of community action. In the near future we plan to establish epidemiologic field stations or ecology centers within this Center to measure the environment and its impact on people. We are not going to establish large institutions in various cities of the United States; some of these centers will be two- or three-man teams working as an integral part of a city's own administration. The teams first observe local problems and later use techniques such as those developed by the Michigan Department of Public Health in the summer project ECHO. The project is based on a "shoe leather" epidemiologic approach to examine problems within a community on a block-by-block basis. It is an attempt to recognize some of the existing basic health problems as well as to develop new ideas for dealing with them.

A single city in a given State may have an infant mortality rate of roughly 24 per 1,000, about the same as the rest of the United States. But on a block-by-block basis, the rate may be 60 per 1,000, which would be an epidemic of infant mortality. Too rarely have we pinpointed such factors and even more rarely have we used such information for planning and decision making.

Nationally, data collection and analysis are not geared toward identifying these pockets of high incidence. It takes the local communities to obtain and use these kinds of measurements. Through the National Center for Urban and Industrial Health we hope to build the kind of field operation that will assist the communities in these efforts. With present resources, we can cooperate with a variety of communities representing the spectrum of urban society—a Northern urban ghetto, a community in Florida

with a large number of elderly persons, a community on the Mexican border with a large Spanish American population, and a community in Appalachia with its unique problems. As a matter of fact, we already have a start in Appalachia with a center located at Morgantown, W. Va. We have a similar operation in our Arctic Health Center, at Fairbanks, Alaska. These two centers will serve as models for others.

Once we begin to have our measurements we will be faced with new problems and questions. The limited experience of public health workers in the political and social arenas will require aid from other groups to get our job done most effectively. One group is the universities, especially community colleges. I believe this relationship will be one of mutual dependence in a number of areas, including training and problem solving directed at stimulating community action. We are well aware that we cannot solve urban health problems and problems of social unrest alone.

Solutions are not going to come easily or rapidly, and our problems will probably get worse before they get better. There must be concerted effort by large numbers of persons to determine adequately the future direction of our society. We are no longer a struggling, rural country tied together by the pioneering spirit. We must set standards and goals appropriate to the way of life and survival of a rapidly urbanizing, complicated society. In many cases, we will have to take action before we complete our

planning. This is particularly true in the environmental health field if we hope to prevent irreparable damage by pollutants and contaminants.

I would not say emphatically that pollution was the single cause of the Detroit riot. But I believe it is one of the factors that adds to the sense of degradation, neglect, and disinterest which engenders the feeling that the community is not acceptable to its own people. Thus, it becomes one of the underlying conditions of the stress syndrome, the riot. We public health workers must begin to concern ourselves with land use policy in the broadest sense. We must develop criteria of effective use of resources, and in order to develop those criteria we must relate them to standards concerning the health and well-being of people.

We in the health professions also have a specific job of collecting the kind of information on which public planning and policy can be based and of translating these data for the decision makers—which ultimately is the general public. Finally, we in public health, in concert with others, must move from the ivory tower into the community to observe and work with situations as they exist. Epidemiology may not be the full answer, but it certainly is the beginning. We need measurements and plans based on those measurements. We need action to correct the problems as those affected see them if our solutions are to be accepted, put in practice, and have lasting benefits.

Program Notes

Men in "Who's Who" Live Longer

Prominent professional and business men listed in the 1950-51 edition of "Who's Who in America" have lived distinctly longer on the average than men in the general population. Some groups among them—notably scientists, educators, and clergymen—have shown particularly low mortality rates.

Government officials (excluding military) experienced a mortality rate nearly 20 percent higher than the average for all the prominent men in the study. Men of letters had a rate 30 percent above the average.

A one-sixth sample (6,329) of men in the 1950-51 edition of Who's Who, less 529 men in that sample who were under age 45, was followed for a 12-year period. In the age range 45-64, men listed in Who's Who experienced mortality rates less than three-fifths those recorded for all white officials, proprietors, managers, professionals, and technical workers in the United States in 1950.

"The favorable mortality observed among the prominent men listed in 'Who's Who in America' is believed to reflect in large measure their physical and emotional fitness for positions of responsibility."—*Statistical Bulletin* (Metropolitan Life Insurance Company), January 1968.

Disaster Drill—Then Disaster

Sparks Memorial Hospital at Fort Smith, Ark., on April 16, 1968, carried out a successful drill of the hospital's new disaster plan. All went well, and everyone performed according to the script.

On April 19, 1968, disaster struck at nearby Greenwood, Ark. A tornado wrecked the small town, killing at least six people and injuring hundreds more.

Sparks Memorial Hospital and its neighbor, St. Edward's Hospital, put their disaster plans into effect immediately. Victims of the disaster who could not be handled by the Army dis-

pensary team at Greenwood were transferred to the two hospitals.

Within 45 minutes, Sparks Memorial and St. Edward's were receiving the victims. Sparks Memorial treated 52 of the tornado victims in the next 7 hours, and 30 patients were admitted. St. Edward's received 13 persons for treatment and admitted eight of these. The well-practiced disaster plans operated smoothly.—*The Week . . . for Hospitals*, April 26, 1968.

Litter Harms Fish

A recent survey of the fish and game departments of the 50 States made by Keep America Beautiful, Inc., turned up ample evidence that trash thrown in lakes and streams harms game fish. The mess left behind by fishing litterbugs has been directly responsible for the closing of waters to fishermen in at least 10 States.

Twenty-two States reported that litter is detrimental to fish life. The quality of fish goes down as the water becomes littered. Litter can alter the environment of lakes and streams in favor of rough fish and against the more sensitive game fish.

Thirty-five States reported laws specifically prohibiting the littering of lakes and streams.

More Living Human Cells

Construction of a new State facility at Buffalo, N.Y., is expected to increase fivefold the number of artificially grown human cells available for medical research. The plant is being constructed on the grounds of Roswell Park Memorial Institute, the cancer research facility operated by the New York State Department of Health.

Dr. George E. Moore, the department's director of public health research, has estimated that the plant will produce more than 2 pounds of living cells a day. Cells not immediately used or those set aside for

shipment to the world's laboratories will "hibernate" in cell banks at minus 200° C. Cells can thus be kept alive many years.

Health Referral Bureau

A bureau of health referral services has been set up in the Allegheny (Pa.) County Health Department. Headed by Gladys Coffey, its purpose is to make known to all sectors of the community the health services that are available. It will also take soundings on attitudes and needs and use the results in planning new programs.

The bureau will expand the work of the department's former OEO Health Service Bureau into a communitywide program. The OEO health and sanitation aides (who live in the communities they serve) now work through the department's five district health offices.

Pollution in Runoff Waters

The Sanitary Water Board of the Pennsylvania Department of Health now regards storm water runoff deliberately discharged into the underground as "potential pollution."

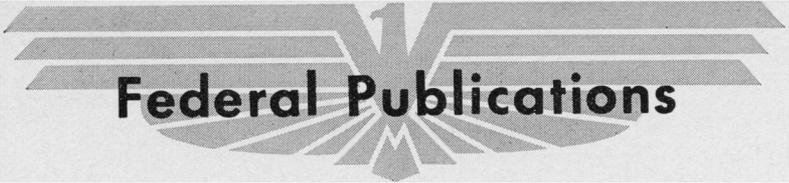
The board amended its rules and regulations in April 1968 to discourage use of boreholes, especially in porous limestone areas, to dispose of land runoff from paved commercial or residential areas. Runoff waters may contain a number of pollutants, according to the board.

Safety Markings on Glass

A requirement for safety markings on transparent glass doors and fixed, adjacent transparent glass sidelights went into effect January 1, 1968, in New York State.

Industrial Code Rule No. 47 requires compliance by all mercantile, commercial, office, hotel, theater, apartment, factory, school, college, and university buildings in the State. All State and municipal buildings come under the rule.

Items for this page: Health departments, health agencies, and others are invited to share their program successes by contributing items for brief mention on this page. Flag them for "Program Notes" and address as indicated in masthead.



Federal Publications

Emphysema, the Battle to Breathe.

PHS Publication No. 1715; 1967; by Frank E. Carcy; 28 pages; 35 cents.

Presents a reprint of an award-winning five-part series published by the Associated Press in September 1966. Carries the reader into medical centers for the care and rehabilitation of emphysema patients and introduces patients, describing the way of life dictated by their breathing problems. Relates what can be done for even those seriously crippled by disease to restore them to more useful and productive lives. Gives special attention to steps which the patient can be taught—programs he can carry on in his own home—to clear his lung airways and to retrain breathing muscles. Highlights research being conducted to uncover causes of chronic lung disease.

Report of the National Conference on Group Practice. Promoting the group practice of medicine.

PHS Publication No. 1750; 1967; 70 pages; 30 cents. Contains detailed recommendations of the physicians, medical school deans, hospital administrators, health insurance industry executives, economists, labor and management representatives, lawyers, and Federal, State, and local government employees who met in Chicago, October 19–21, 1967, to explore ways to stimulate group practice.

Tritium Contamination in Particle Accelerator Operation.

PHS Publication No. 999-RH-29; by Donald O. Nellis, Emmett L. Hudspeth, Ira L. Morgan, Patricia S. Buchanan, and Richard F. Boggs; November 1967; 47 pages.

Tritium metallic targets are frequently used in particle accelerators to produce high-energy neutrons. The purpose of this study was to investigate the problems and hazards associated with the use of these tritium targets, so that appropriate steps can

be taken to minimize the potential radiological health hazards. Particular emphasis was placed on the operation of Cockcroft-Walton type neutron generators, since these constitute a high percentage of such particle accelerators which use the tritium metallic targets.

The study demonstrated that bombardment of tritium targets results in the loss of about one tritium atom for each bombarding deuteron, and that most of the tritium is in a gaseous form when it leaves the target. It was also determined that a relatively small amount of the tritium released from the target actually remains within the accelerator. Most of the tritium lost by a bombarded target is trapped in the elements of an ion pump or released through the vacuum system exhaust.

Poison Ivy, Oak, and Sumac.

PHS Publication No. 1723; 1967; folder; 5 cents, \$3.50 per 100. Describes urushiol, an ingredient found in the sap of poison ivy, oak, and sumac which causes allergic contact dermatitis. Devotes a section on how to recognize, avoid, and eliminate the plants.

For Medical Technologists: The frontier of clinical pathology.

Clinical Center, National Institutes of Health; 1968; 16 pages. Describes employment opportunities and working conditions at the Clinical Center. Six interviewees discuss pay, living conditions in the Washington area, formal and informal education programs, research on automation and computerization of laboratory techniques, and other aspects of clinical pathology work at the Clinical Center. Contains illustrations.

Health Manpower Perspective, 1967.

PHS Publication No. 1667; 1967; 81 pages; 55 cents. Presents a review of present supply, needs, and shortages in health occupations, education for health services, Federal aid now

available for educational programs in the health field, and possible methods of improving the quantity and quality of health manpower. Uses 22 tables and eight graphs, plus bibliographies and references to support the text.

Current Research in Chronic Airways Obstruction. Ninth Aspen Emphysema Conference. Aspen Colo., June 7–10, 1967.

PHS Publication No. 1717; 415 pages; \$2. Presents proceedings of the Ninth Aspen Emphysema Conference in Aspen, Colo. Includes conclusions of the eighth (1965) and studies reported in 1966 and 1967. Contains 30 of the 1966 papers, discussing basic and applied research. Includes clinical studies and research on lung structure and mechanics. Companion publications are PHS Publication No. 1457, "Management of Chronic Obstructive Lung Disease," and a volume of 1967 studies, "Current Research in Chronic Obstructive Lung Disease," now in press.

Progress Against Cancer, 1967.

PHS Publication No. 1720; 1967; 65 pages; 65 cents. Deals with research on viruses as cancer-causing agents in laboratory animals and the efforts being made to identify viruses that may give rise to malignant diseases in man. Emphasizes that no virus has been identified as the causative agent in any form of human cancer. Includes an extensive bibliography on virus-cancer research.

This section carries announcements of new publications prepared by the Public Health Service and of selected publications prepared with Federal support.

Unless otherwise indicated, publications for which prices are quoted are for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington D.C. 20402. Orders should be accompanied by cash, check, or money order and should fully identify the publication. Public Health Service publications which do not carry price quotations, as well as single sample copies of those for which prices are shown, can be obtained without charge from the Public Inquiries Branch, Public Health Service, Washington, D.C. 20201.

The Public Health Service does not supply publications other than its own.



HICKEY, JOHN L. S. (Public Health Service), and CAMPBELL, SAMUEL D.: High radium-226 concentrations in public water supplies. *Public Health Reports, Vol. 83, July 1968, pp. 551-557.*

To identify population groups in the United States having relatively high chronic intakes of radium from drinking water, samples of approximately 900 public ground water supplies serving 3.8 million people in 20 States were analyzed in 1966-67.

After the National Center for Ra-

diological Health, Public Health Service, had arranged for the water sampling with the health departments of the 20 States, personnel of these departments or of community water departments collected 1-liter samples of the selected water supplies and mailed them to the labora-

tory performing the radium analyses. The response to the request for water samples was more than 94 percent.

Forty-one water supplies, serving 144,000 people in 10 States, were found to have 3 or more pCi (pico-curies) of radium-226 per liter. Four supplies, serving 3,000 people, contained 10 or more pCi per liter. The highest concentration observed was 24.1 pCi per liter, in a supply serving 360 people.

BRYSON, JERRY M. (University of Iowa), and BRALEY, ALSON E.: Ophthalmological consultation for children in rural Iowa. *Public Health Reports, Vol. 83, July 1968, pp. 569-572.*

Iowa State Services for Crippled Children (SSCC) operates each year about 60 multispecialty clinics for diagnoses and consultation. These general, cardiac, and ear, nose, and throat clinics are staffed by the University of Iowa colleges of medicine and dentistry and full-time SSCC personnel.

All Iowa children under 21 years of age are eligible for diagnostic services and are seen free of charge. SSCC specialists serve only as consultants, and no treatment is provided at the clinics. Children are cared for by their family physician

or dentist unless he and the parents agree to treatment by specialists elsewhere.

Direct referral routes to the university center for specialized or emergency care are available. Public health nurses and medical social consultants counsel the families and provide detailed followup.

Eight hundred eighty-six children made 1,080 visits for eye evaluation to 61 field clinics during the period 1959-66. Eye abnormalities were found in 676, or 76 percent, of the children. Most of the remaining 210,

or 24 percent, of the children had signs and symptoms suggestive of eye disease, various syndromes, or other systemic health problems in which eye disorders may be present.

Two-thirds of the 886 patients were seen by at least one specialist in addition to the ophthalmologist. One-third were referred for evaluation of their eyes only.

The field clinics, serving areas with few specialists, are also a source of referrals to the university clinic staff. In addition to enabling further examination and treatment for the patients, these referrals provide opportunities for a wide range of professional service by the ophthalmology department.

RUMFORD, JOHN C. (U.S. Agency for International Development), HEPERKAN, YAŞAR, and FINCANCIOĞLU, NURAY: The principles and preliminary results of the Turkish Demographic Survey. *Public Health Reports, Vol. 83, July 1968, pp. 573-582.*

The Turkish Demographic Survey, initiated in 1965, is a household enumeration instrument designed primarily to provide accurate and current data on vital events. The sample size for the entire nation is about 235,000 persons.

Two methods are used to collect the data. The first employs a local, resident registrar who makes regular monthly visits to each household

in his assigned area and reports the demographic changes which have occurred in the household during the past month. The second method employs a staff supervisor who independently calls on the same households every 6 months. The two reports are matched, and all mismatches are verified.

The manner in which each event was recorded is tabulated in three categories; events recorded by both

the registrars and supervisors (N_1), events recorded by the registrars but missed by the supervisors (N_2), and events recorded by the supervisors but missed by the registrars (N_3). The rates are adjusted by the equation $N = N_1 + N_2 + N_3 + N_4$ where $N_4 = N_2 \cdot N_3 \div N_1$. Essentially, the adjustment provides an estimate of the events probably missed by both systems.

Because of the immaturity of the survey, coupled with the constant improvements in control procedures, survey estimates are anticipated to be unstable for the next several years.

BROWN, WILLIAM J. (Public Health Service), and SCHEER, DON J.: *Use of behavioral research in venereal disease control. Report on four studies. Public Health Reports, Vol. 83, July 1968, pp. 583-586.*

Observations resulting from recent research concerning attitudinal and behavioral aspects of venereal disease control were reviewed to show how such studies can be used in a communicable disease control program.

Results of examining the impact of informational materials on high-risk groups showed that persons averaging 19 years of age considered films and a programed instruction workbook the best means of obtaining information about venereal disease. The study also showed that a public health agency must tailor and direct its programs to various segments of the public, as determined by age, sex, social class, and race.

A second study, conducted among 11th grade parochial school students, was designed to evaluate the teaching effectiveness of three films. One of the films was a new attempt to combine entertainment with objectivity. Students who saw these films increased their knowledge of venereal disease by 26.5 percent. This study also showed that the most entertaining presentation might not be the most informative, although a most informative film could also be most entertaining.

In the third study teenagers with gonorrhea had a greater degree of personal disorganization than their noninfected peers. The patients seemed to include the most rootless,

asocial, and disadvantaged members of the lower class metropolitan community.

Conducted among migrants to an urban area, the fourth study revealed that increased frequency of casual sexual contacts, or pickups, rather than promiscuity, as defined in terms of having several partners, seemed to determine the probability of contracting a venereal disease.

Results of the third and fourth studies suggested that an all-out attack on the social conditions of poverty and deprivation would lead to a beneficial effect on the personality of the potential venereal disease patient entering adolescence.

Evaluative and predictive types of behavioral studies can help public health administrators minimize the guesswork in planning venereal disease control programs.

JOBIN, WILLIAM R. (National Communicable Disease Center, San Juan, P.R.): *Rationale for selecting molluscicides for bilharzia control programs. Public Health Reports, Vol. 83, July 1968, pp. 594-596.*

Relatively simple indices have been used to compare molluscicides for controlling snails which transmit parasitic schistosomes. To improve the comparative process, a mathematical model of a single molluscicide application to flowing

water was developed. The model included chemical, hydraulic, and economic factors.

The components of the model are chemical cost, labor cost, and downstream carriage of the toxic chemical wave. The output is an estimate of

the cost per kilometer of stream treated.

Analyses of three molluscicides with the model indicated that the highest priced chemical was preferable to the other two because of its low labor requirements for application and high effectiveness downstream. The model should enable more precise selection of molluscicides for programs of snail control.

FOX, RUTH I. (Westchester County Department of Health), GOLDMAN, JACK J., and BRUMFIELD, WILLIAM A., Jr.: *Reaching the target population for prenatal and postnatal care. Public Health Reports, Vol. 83, July 1968, pp. 597-602.*

In suburban Westchester County Health District, N.Y., 555 high-risk mothers with newborn infants, selected for study because of health or socioeconomic criteria or both, were interviewed by public health nurses. The results revealed that 80 percent of these high-risk mothers did not have pre-pregnancy examinations—125 or 28 percent because of

unplanned pregnancies, and 51 percent because of lack of knowledge of the importance of such health practices.

The interval between previous medical contact and beginning of pregnancy varied from 1 to 6 months for 45 percent of these women, from 7 to 12 months for 16 percent, and from 1 to 5 years for 23 percent.

To close the gap between the modern concepts of good preventive health practices held by medical and public health professionals and the actual health habits of these mothers, it was recommended that comprehensive maternal and child health centers be established to provide the entire range of health services, establishing a health information and referral service for persons in the low socioeconomic groups, and training and using paramedical personnel to provide ancillary services to make the health information and referral service more effective.